

**UTILIZATION OF ESSENTIAL NEWBORN CARE SERVICES AMONG  
MOTHERS**

**By  
Ms. KAVITHA.P**

**A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R.MEDICAL  
UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF MASTER  
OF SCIENCE IN NURSING**

**MARCH 2011**

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## DECLARATION

I hereby declare that the present dissertation titled **“A Descriptive Study to assess the utilization of essential newborn care services rendered by National Rural Health Mission (NRHM) among mothers at selected Primary Health Centre, Kanchipuram.”** is the outcome of the original research work undertaken and carried out by me, under the guidance of **Dr. Latha Venkatesan, M.Sc (N)., M.Phil., Ph.D.,** Principal and Professor, Apollo College of Nursing and **Ms. Nesa Sathya Satchi M.Sc (N)., Reader,** HOD of Pediatric Nursing, Apollo College of Nursing. I also declare that the material of this has not formed in any way, the basis for the award of any degree or diploma in this university or any other universities.

## CHAPTER I

### INTRODUCTION

#### Background of the Study

*“A millions of lives and billions of dollars could be saved if people are aware of the importance of utilizing right type of health facility at the right time.”*

Health is not mainly an issue of doctor, social service and hospital; it is an issue of social justice. So the health is on one hand a highly personal responsibility and on other hand a major public concern. It thus involves the joint effort of the social fabric i.e. the individual, the community and the state to protect and promote health.

In many countries health care is completely or largely a government function. In India also, the state government accepted the responsibility of public health and played the primary role in initiating and implementing development activities including provision of health care. But a review of development in the health sector since independence revealed that the progress in various aspects of health has been a mixed bag. Although India has excelled in a few areas, in many areas it is miles behind. India is not doing well on the front of health which is evident from the fact that it was ranked 127<sup>th</sup> in terms of Human Development Index, according to Human Development report by the Union Nations in 2005.

Based on the review of available data it is estimated that by 2015 the number of HIV/AIDS cases would be three times more than the current level, entailing a possible increase in the existing prevalence of about 85 lakh cases. Infant mortality rate is still 58/1000 live birth and maternal mortality rate is 301/1, 00,000 in India (census 2001).

Considering the above facts the Government of India had resolved to launch the “National Rural Health Mission” (NRHM) to carry out necessary architectural correction in the basic health care delivery system.

It was a red letter day on 12<sup>th</sup> April 2005 in India, when the Prime Minister of India Honourable Dr. Manmohan Singh launched “The National Rural Health Mission with a budget outlay of Rs.6500 Crores for 2005-06 with the commitment of the government to raise Public Health expenditure from 0.9%to 2-3% of GDP.The goal of the mission is to improve the availability and access to quality health care by people especially for those residing in the rural areas, the poor women and children with an initial focus on 18 states where rural health care was in bad shape. The aim of NRHM is provide universal access to equitable, affordable and quality health care that is accountable responsible and responsive to the people’s need, reducing child and maternal death as well as stabilizing population growth and providing accessible, affordable, accountable, effective and reliable primary health care, reducing the neonatal death rate in rural health care through creation of a essential newborn care. The primary goal of essential newborn care is to reduce the perinatal and neonatal mortality.

The main components of essential newborn care are resuscitation of newborn with asphyxia, prevention of hypothermia, exclusive breast feeding and referral of sick newborn. The strategies are to train medical and other health personnel to provide basic facilities of care for low birth weight and sick newborn in First Referral Unit (FRU) and district hospitals etc.

This shows that Government of India is concerned about the health of the community and has sanctioned 2-3% of GDP on health to meet the Millennium Development Goals. So, it is essential to know how far it is accessible to the remote area and whether the community people are aware of the health services available for them and to determine if they are satisfied with the services.

Hence the researcher planned to conduct this study to know how far community is aware of the services which are available at their door step and what is their attitude toward those services, which are very cost-effective.

### **Need for the Study**

In India overall infant mortality rate in 2003 was 60, under five mortality rate in 2003 was 87, and maternal mortality rate in 2000 was 407. The total rural population of Tamil Nadu as per census of India (2001) was 34,921,681 and the number of inhabited villages 15,400 and the rural population of India was 4.70%. Studies revealed that only 20% of people utilized the health care facilities which were available and the rest of the 80% did not utilize either due to lack of awareness or lack of trust.

The NRHM is trying for a complete paradigm shift in the health care. This also requires close monitoring and evaluation of the efforts being made. A simultaneous review by the Independent Commission on Development and Health in India (ICDHI) is one way to assess the process of implementation of the mission agenda at the state level and gives it constructive feedback to the NRHM as well as the State Rural Health Mission.

A study to assess the utilization of essential newborn care services among mothers of newborn at this juncture have attracted lot of importance since it gives feedback to “State Rural Health Mission” which will in turn help them to improve in the areas where they lack. A recent report states about under fed category i.e. state in which health care delivery system is poor and declared it as EAG (Empowered Action Focussed Group) where the with Infant Mortality Rate (IMR) , Neonatal mortality rate (NMR), and Under five mortality rate is still very high.

The government primary health centre of Kanchipuram block of Chengalput district is located at Thiruppukuzhi village. This health centre covers an area of 80.39sq.kms. The rural birth rate as per census of October (2006) in Tamil Nadu was 16.9, death rate was 8.2, and the rural natural growth rate per thousand was 8.7. the maternal mortality rate as per 2001-2003 census was 134.

Recognising the above findings the investigator was interested in this study. The essential newborn care is the best way to reduce the neonatal, infant and Under five death rates and thus promote the health of the children. The researcher planned to conduct this study to know how far the community is aware of the services at their door step and what their attitude is towards those services. The researcher was also interested because the government has taken many steps to overcome the mortality and morbidity and a lot of health programmes are incorporated into action to reach the target population. If the final report of this study given to the PHC it will help to improve their delimitations and enhance better service to the community.

### **Statement of the problem**

A descriptive study to assess the utilization of essential newborn care services rendered by National Rural Health Mission (NRHM) among mothers at selected primary health centre, Kanchipuram.

### **Objectives of the study**

1. To assess the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.
2. To correlate the knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.
3. To determine the association between selected demographic variables and the level of knowledge ,attitude and utilization of essential newborn care services rendered by NRHM among mothers.

### **Operational Definitions**

#### **Utilization**

In this study utilization refers to the percentage of mothers using the available services such as care of eyes, skin, umbilical cord, providing warmth, breast feeding, immunization rendered to newborn soon after birth of the baby in order to prevent infection and to improve health of the newborn after delivery rendered by NRHM.

#### **Newborn**

It is the period from the birth of the baby to the three and half months of life.

#### **Essential newborn care**



In this study it includes the immediate care such as care of eyes, skin and umbilical cord, providing warmth, breast feeding, immunization rendered to newborn soon after birth of the baby in order to prevent infection and to improve health of the newborn after delivery.

### **National rural health mission (NRHM)**

It is a strategy of the government whose goal is to restructure the delivery mechanism for health in providing universal access to equitable, affordable and quality health care that is accountable and responsive to the people's needs; reducing the death of the mother and newborn as well as stabilizing the population growth.

### **Assumptions**

**The study assumes that,**

- There is high mortality and morbidity in rural India.
- Essential newborn care services rendered by NRHM, helps to decrease the mortality and morbidity in rural India.
- Both quality and quantity services by the primary health centre improves the status of health of the newborn.

### **Null hypotheses**

**Ho1:** There will be no significant relationship between knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.

**Ho2:** There will be no significant association between selected demographic variables of mothers and the level of knowledge ,attitude and utilization of essential newborn care services rendered by NRHM.

### **Delimitations**

#### **The study was delimited to**

- Mothers who were coming to Thiruppukuzhi, Primary Health Centre for Immunization, minor ailments and follow ups.
- Study period was limited to 4 weeks.

### **Conceptual frame work**

The conceptual frame work deals with the interrelated concept that is assessable together in the same rational schemes by virtue of their relevance to a common theme (Polit and Beck, 2004).

The conceptual frame work set up for this study was modified model of **“Planned Change Model”** by Kurt Lewin (1947).He has defined the Planned Change Model is a purposeful designed effort to effect the improvement in a system with the assistance of a change agent which is crucial to the development of successful community health nursing programme.

In this study the depromoting factors are lack of knowledge, negative attitude, and lack of awareness about availability of health services which affects the health of the newborn. The promoting factors are knowledge about the disease, positive attitude and awareness about the health facilities, availability and utilization of those services. Changing agent among the health care consumers must be responsible to accomplish the health goals and thus promote change to improve community health. There are three stages of changes in the behaviour i.e., unfreezing, changing and refreezing.

### **Unfreezing**

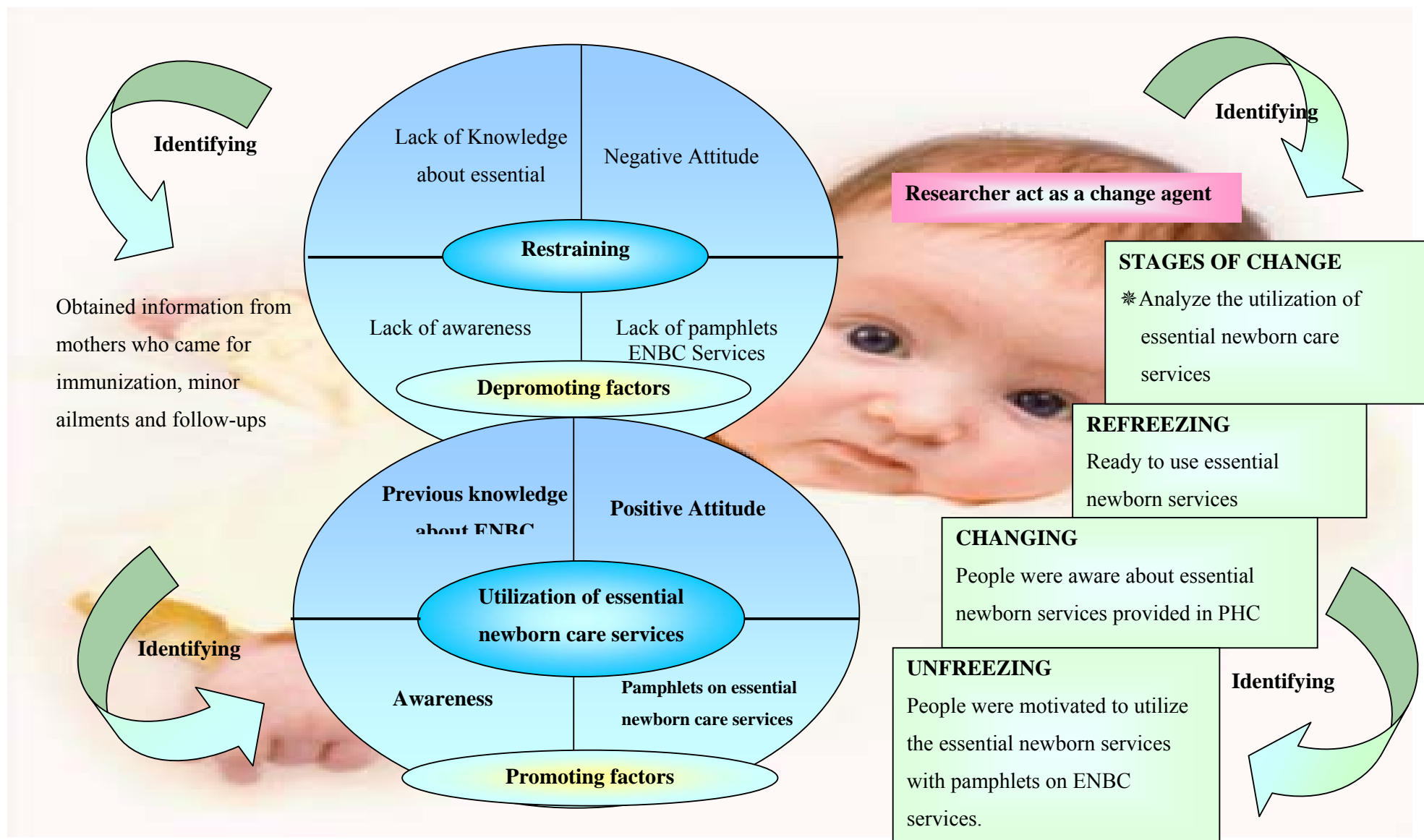
In this stage people are motivated to change, it involves initiating the change. The change agent may need to initiate the unfreezing stage by attempting to motivate the clients, through education or other strategies. In this study researcher motivated the health care consumer to utilize the essential newborn services by distributing pamphlets and make them aware about the health facility.

### **Changing**

During this stage, the health care consumer accepts and tries the innovation people experience a series of attitude transformation, ranging from early questioning of the innovation worth to full acceptance and commitment to accomplish the change. The change agent's role during this stage was to help client to see the value of the change, encourage them to try it out. Researcher during this study accomplishes this by informing people about the benefits of utilizing the essential newborn care services.

**Refreezing**

The third stage refreezing occurs when change is established as an accepted and permanent part of the system. The researcher observes that health care consumers were ready to utilize the health services which were easily available, accessible and also cost effective after understanding its benefits. Thus, it improves the health status of the newborn.



**Fig. 1 Conceptual Frame Work Based on Kurt Lewin Change Model**

## **Summary**

This chapter has dealt with the background of the study, need for the study, and statement of the problem, objectives of the study, operational definition, assumption, null hypotheses, delimitations and conceptual framework of the study. This chapter provided the strong base for the further proceedings of the study.

## **Organization of the report**

Further aspects of the study are presented in the following four chapters

**In Chapter – II** : Review of literature.

**In Chapter – III** : Research methodology- which includes research approach, design, setting, population, sample and sampling techniques, tool description, content validity and reliability of tools, pilot study, data collection procedure and plan for data analysis.

**In Chapter - IV** : Analysis and interpretation of data

**In Chapter – V** : Discussion.

**In Chapter – VI** : Summary, conclusion, implications and recommendations.

## **CHAPTER II**

### **REVIEW OF LITERATURE**

A literature review is an organized written presentation of what has been published on a topic by scholars (Burns and Groove, 2004).

The task of reviewing literature involves the identification, selection, critical analysis and reporting of existing information on the topic of interest. A review acquaints the researcher with what has been done in the field and it minimizes possibilities of unintentional duplications. It justifies the need for replication, provides the basis of future investigations and help to relate the findings of one study to another.

Review literature is a key step in research process. It refers to extensive, exhaustive and systematic examination of publication relevant to research project (Basavanthappa, 1998).

This chapter deals with a review of published and unpublished research studies and from related material for present study. This review helped the researcher in building the foundations of the study.

**The review of literature in this chapter is presented under the following headings:**

- **Literature related to knowledge of health care services.**
- **Literature related to attitude towards health services.**
- **Literature related to utilization of health services.**

### **Literature related to knowledge of health care services.**

A descriptive study conducted by Ramirez et al., (2000) to evaluate the health care needs of the elderly population of a community in Spain revealed that only very few utilized the programmes and services available for elderly persons. The study also suggested the need for education about the available services to improve the utilization of the services.

In (2002) Tuma et al., conducted a study to assess the knowledge, belief of care givers towards compliance with childhood immunization in Cameroon Schools. Among 550 participants 72% responded that their children had up to date with their immunization. It was also found that higher level of education and living in an urban location were found to be associated with increased likelihood of care giver giving up-to-date immunization to their children .

Kavitha, (2008) conducted a descriptive study in two selected rural areas of Coimbatore district to assess the knowledge of rural mothers among 106 mothers of 0-1 year old infants. The findings revealed that 98.11% of the mothers had adequate knowledge about weaning and there was an association found between the mothers educational status, family income and knowledge significantly at the level of  $p < 0.05$ .

Asif Mohamed et.al. conducted a descriptive study in (2009) to assess the knowledge and attitude of neonatal care practices among post natal mothers in a tertiary care hospital in south India. The data was collected from 100 mothers by trained interviewers using a structured proforma. In addition to demographic data mothers were also asked about their knowledge and attitude towards neonatal care practices. It was



found that knowledge of mothers was inadequate in areas of umbilical cord care (35%) thermal care (76%) and vaccine preventable disease. 19% of them still using practices on oil instillation into nostrils of newborn. The study indicates that awareness and attitude of postnatal mothers towards neonatal care has lot of lacunae especially in those who belongs to low socio economic background. This is scope for improvement by providing better health education of antenatal mothers.

### **Literature related to attitude towards health services**

Rao (2000) conducted a cross sectional comparative study on knowledge, attitude and practices to know the feasibility of the client demand approach in revised family welfare programme among 452 eligible couples in Latur district of Maharashtra. The study revealed that demand was not adequate in either rural or urban couple (50.4%) and couple protection was largely dependent on motivation by others (83.8%) rather than on self motivation and demand (16.2%). Family planning awareness, literacy, family size and socio economic status significantly influenced the demand for family planning.

In a descriptive study conducted by Braj Das (AIMS Research 2000) on perception and practices of leprosy patients towards health services revealed that lepers sought the Government services most frequently. Consumers expressed the reason for frequent utilization of such services as strong and effective working of allopathic medicine compared with other medicines. Availability of free medicines for minor ailments and effective consultations were the other factors which make the people to opt for government hospital.

An analytical study conducted by Thompson S. Burse et.al in the year (2002) to examine the demand for substitutive voluntary health insurance in Germany concluded that substitutive voluntary health insurance does not appear to provide good value for money particularly for the people who are dependent, elderly and with poor health. Thus the demand was low, which makes the people not utilizing the services available.

Reddy et.al (2003) conducted a descriptive study to assess the attitude and practices related to family planning among men within 5 yrs of married life to find their opinion regarding men's involvement in reproductive health. The study concluded that the study population had a positive attitude towards family planning, thus used various family planning methods. The study also justified the needs of involving men in reproductive health.

#### **Literature related to utilization of health services**

Rubert et al., (2000) conducted a descriptive study on utilization of primary health care services facilities in Karnataka which revealed that the level of satisfaction of treatment at the government sources were only 44% thus the utilization of primary health care services was less. Rapid household survey (2000) on utilization of Govt health facilities revealed that only 17% of rural women in the state reported that either an auxiliary nurse midwife visited them at their residence once or more. In every district at least 10% of the rural women were visited by the ANM. 90% of the women expected satisfaction towards the time spent by the workers.

Utkal University (Orissa, 2000) report on concurrent evaluation of family welfare program revealed the reason for not availing Government services as 35% of

beneficiaries expressed as poor quality of medicine, 22% with non-availability of doctors and medicine. Thus the availability of service to the population was very poor.

It also revealed that among the districts, utilization of the government health facilities, varied from a low of 25% in Coimbatore, Dharmapuri and Kanyakumari to a high of 44% in Erode. A large percent of the women who visited Govt. Health facilities found it worth to recommend to others. In all the districts except Kanyakumari (71%) and Thiruvannamalai (79%) more than (80%) women who visited Govt facility expressed the satisfaction about the Govt health facilities.

National family health survey conducted a survey in Orissa in the year 2000 on utilization of MCH and family planning services that most acceptors were satisfied with clinical services provided but nearly 15% have indicated regarding inconvenient primary health centre time and long waiting time to receive the antenatal check up.

In 2001, Chacko conducted a village level study on women use of contraceptive among women in rural India. He examined the determinants of contraceptive use among married women in four villages in rural west Bengal, India. He selected 600 women through survey method and qualitative data derived from ethnographic methods. Bi and multivariate analysis demonstrate that the factors that the mostly influence the use of contraception included age, number of living sons and her religious affiliation. The study also discusses that the availability and quality of permanent village based Government health care affects the use of modern contraception.

Manish et al., (2008) conducted a cross sectional study at Sarojini nagar PHC during the period of Aug 2007- August 2008 to identify the effective link to address the

poor utilization of maternal and child health (MCH) services by rural pregnant women. The objective of the study factors influencing utilization of ASHA services in relation to maternal health study the factors influencing utilization of ASHA services in relation to maternal health. Recently delivered women (RDW) were considered and nearly 350 RDW were interviewed at their bedside by a performed and pre tested schedule and then were followed –up after six weeks. It was found that utilization of ASHA services was found to be adequate for antenatal care was also inversely associated with age of RDW. Hence it was found that young, educated RDW with low parity, educated husband and belonging to higher socio economic class had odds of utilization of ASHA services.

Kumar Kuldeep in the year (2009) conducted a case study on utilization of health services under National Rural Health mission at Uttar Pradesh. He selected multi stage purposive random sampling method to collect appropriate sample from the selected state. Data was collected from outpatient and inpatient registers maintained at each level of health facility and primary health centre with the help of pre-designed in the state of Uttar Pradesh. From the analysis it is evident that service delivery capacity of the public health system has increased at each level. It also found that outdoor patient visits had increased at all three levels, utilization of health facilities at each level, which reflects strengthening of public health system in the recent years though with variation. The maximum improvement is found at the PHC (129%) level. Preliminary analysis suggests that there is an increasing trend in the utilization of health facilities at each level, which strengthening of public health system in the recent years.

## **Summary**

This chapter had dealt with review of literature related to the problem stated. It helped the researcher to understand the impact of the problem under study. It has also enabled the investigator to design the study, develop the tool and plan the data collection procedure and to analyse the data.

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

The methodology of research study is defined as the way the data are gathered in order to answer the question or analyse the research problem. It enables the researcher to project a blue print of the research undertaken. The research methodology involves a systematic procedure by which the researcher starts from the initial identification of the problem to its final conclusion.

This chapter deals with the methodology adopted by the researcher for the study. It includes research approach, research design, sample and sampling technique, development of data collection instruments, and method of data collection, pilot study and plan for data analysis.

On the whole it gives the general process of gathering and processing of research data. The present study was conducted to assess the utilization of essential newborn care services among mothers.

#### **Research approach**

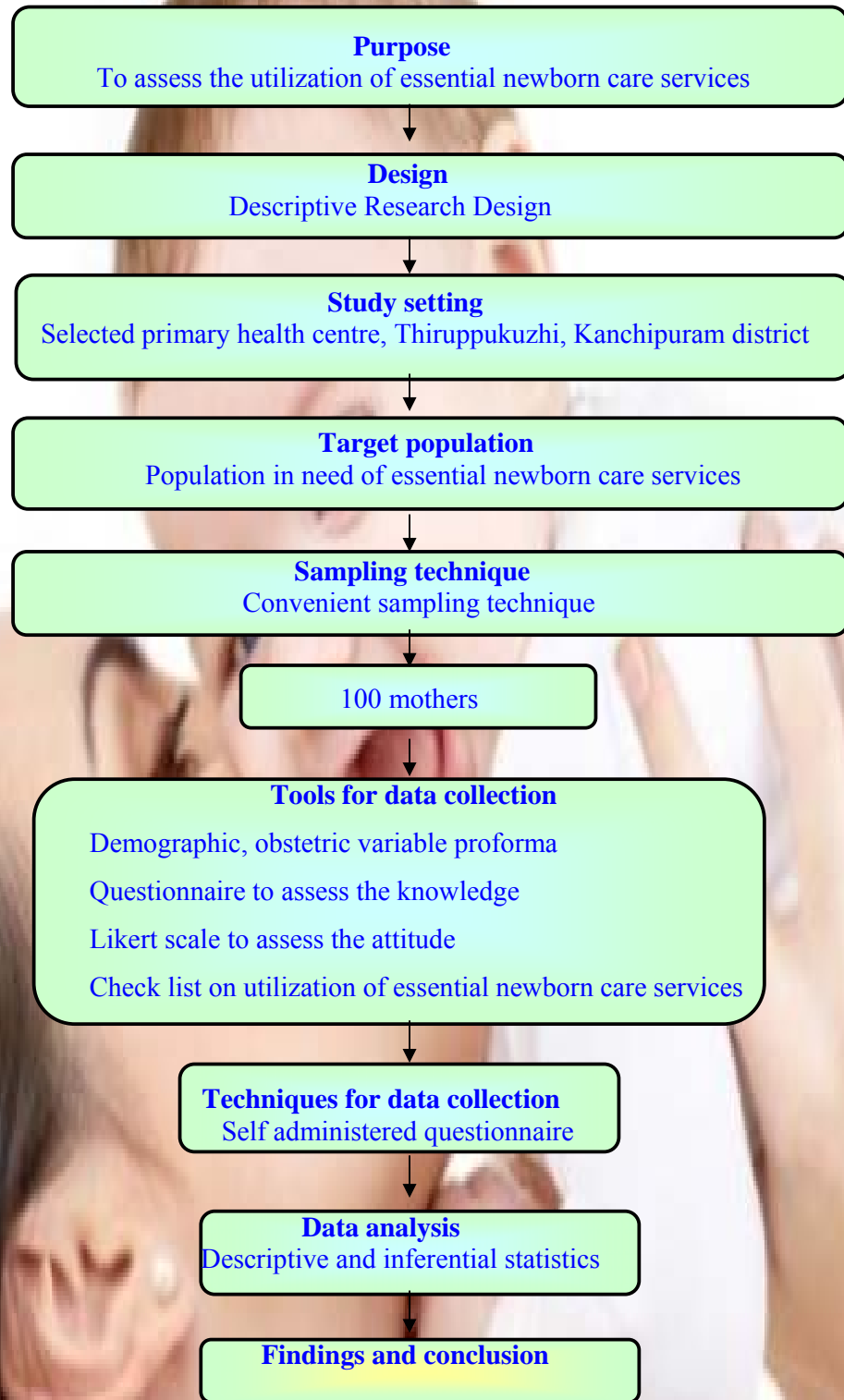
Research approach is the most significant part of any research. The appropriate choice of the research approach depends on the purpose of the study which is under taken. According to Polit and Beck (2004), evaluation research is an extremely “applied” form of research involved in finding out how well a programme, practice or policy is working. Its goal is to assess or evaluate the success of a programme or practice.

In this study, the investigator wanted to assess the utilization of essential newborn care services among mothers so a descriptive evaluative approach seemed to be very appropriate.

### **Research Design**

A research design is an important methodological design that a researcher works in conducting a research study (Polit and Hungler 2004).

A Non-experimental descriptive study design was adopted to conduct this study. In this study the researcher assessed the utilization of essential newborn care services using self administered questionnaire. The study was conducted among the mothers of newborn who came to PHC for immunization with minor ailments and for follow up services. The schematic representation of research methodology is given in Figure.2



**Fig.2 Schematic design of the study**

### **Research Setting**



Settings are the most specific places where data collection will occur (Polit & Beck 2006). The present study was conducted at the primary health centre, Thiruppukuzhi, Kanchipuram district which is located nearly 45 kms away from Chennai. It covers nearly 5 lakh Population. Total population of the village is about 29,769 males, 30,046 females.

The services available in Thiruppukuzhi primary health centre includes basic laboratory services, drug supplies, referral services, collecting and reporting of vital statistics, training of health guides, emergency services like maternal and child health services include antenatal clinics, delivery facilities, postnatal care, immunization, family planning services. During immunization services on Wednesday, around 250 - 300 Children came to PHC to receive immunization. It has 30 beds for post natal mothers. Services here are available round the clock.

### **Population**

A population is an aggregate of all subjects that possess a set of specification (Polit and Beck 2006).

The target population is the group of population that the researcher aims to study and to whom the study findings will be generalized. In this study target population comprises of the mothers who had newborns.

The accessible population is the list of population that the researcher finds in the area. The accessible population in this study was mothers of newborn who came to

the PHC for immunization with minor ailments and for follow up services during the period of data collection.

### **Sample**

Sample is a subset of the unit that comprises the population (Polit and Beck 2006). A total number of 100 mothers with newborn who came to the PHC for immunization with minor ailments and for follow up services, on the day of data collection. Mothers with infants till three months of age were included to assess the follow up of essential newborn care services.

### **Sampling Technique**

Sampling is the process of selecting a portion of the population to represent the entire population (Polit and Beck 2006) convenient sampling was adopted by the researcher to select the participants. All participants who were willing and fulfilled the inclusion criteria were selected..

### **Sampling Criteria**

#### **Inclusion criteria**

The study included the subjects

- Mothers with babies from birth to three months of age.
- who were need in of essential newborn care services.
- who were residing in the selected villages for more than 3-6 years.
- who could understand and speak Tamil.
- who were willing to participate in the study.
- Mothers of children who attend the PHC for regular follow up, minor ailments and immunization.

### **Exclusion criteria**

The study excluded,

- Mothers admitted in the PHC.
- Mothers of critically ill children.

### **Selection and development of study instrument**

As the study aimed at the assessment of utilization of essential newborn care services, data collection instruments were developed by an extensive review of literature, consultation with experts. The instrument used were demographic and obstetrical variable proforma, structured questionnaire on knowledge, Likert scale to assess the attitude, check list to assess the utilization of essential newborn care services.

### **Demographic and obstetrical variable proforma**

Demographic variable proforma consisted of the information regarding age, education, occupation, religion, number of years of stay in the selected village, source of information regarding essential newborn care services. Obstetrical variable proforma consisted of the information regarding the type of delivery, parity and number of children.

### **Structured questionnaire**

This consisted of two sections namely knowledge and attitude. To assess the knowledge regarding essential newborn care services among mothers 25 multiple choice questions were prepared under the following headings essential newborn care services; breast feeding, immunization and weaning. Each question has 1 correct answer which

carried 1 mark and incorrect response carried '0'. There was no negative scoring. The total scoring was 25. To interpret score it was converted into percentage and classified as

<b>Percentage</b>	<b>Interpretation</b>
$\leq 50\%$ -	in adequate knowledge
51-75% -	moderately adequate knowledge
$\geq 76\%$ -	adequate knowledge

#### **Likert scale to assess the attitude**

Likert scale was prepared by the investigator. There were 10 statements five were positive and five were negative. The total score was 50. The scores were converted into percentage and categorized as

<b>Percentage</b>	<b>Interpretation</b>
$\leq 50\%$ -	negative attitude
51-75 -	uncertain
$\geq 76\%$ -	positive attitude

#### **Check list on utilization of essential newborn care services**

It consisted of four sections namely utilization of antenatal services, utilization of essential newborn care services, utilization of counseling services on exclusive breast feeding and utilization of first referral services. All the section consisted of question which included the services provided in the nearest primary health centre like health education, distribution of medication ,home visits and regular follow up by village health nurse.

The checklist for utilization of antenatal services consisted of seven questions. Utilization of essential newborn care services had of nine questions. Utilization or counseling service on breast feeding services had five questions; utilization of first referral service consisted of four questions with a total of 25 questions. Each questions had 3 responses –not done which carried 1mark, partially done -2 and done -3 marks. The maximum score was 75 and minimum score was 25. To interpret the utilization rate score, it was converted into percentage and classified as

<b>Percentage</b>		<b>Interpretation</b>
$\leq 50\%$	-	inadequately utilized
51-75%	-	partially utilized
$\geq 76\%$	-	fully utilized

#### **Validity of the study instruments**

Content validity is the degree to which the item in an instrument adequately represents the universe of the content (Polit and Beck 2006).

Content validity of the tool was established by six experts in the field of nursing and one medical expert. Based on the expert's suggestions the investigator finalized the tools for the original study.

#### **Reliability of the study instruments**

Reliability is the degree of consistency with which an instrument measures the attribute it intends to measure (Polit and Beck 2006).The reliability of the tools were elicited by test, retest technique ; Karl Pearson's 'r' was computed for finding out the

reliability. Tools were found to be highly reliable with  $r=0.86$  for structured questionnaire on knowledge.  $r=0.82$  for the Likert scale to assess the attitude. For the check list on utilization of essential newborn care services was also found to be highly reliable with  $r=0.89$ . They showed that the tools were highly reliable.

### **Pilot study**

It is a miniature of some parts of actual study in which the instruments are administered to the subjects drawn from the same population (Polit and Beck 2006).

It is a small scale version or trail done in preparation for the major study. The purpose is to find out the feasibility and practicability of the study design. A pilot study was conducted in Thiruppukuzhi, primary health centre, Kanchipuram district, Chennai among 10 health care consumers. During the pilot study a structured questionnaire was used to assess knowledge and data was collected by interview method, Likert scale to assess attitude and check list to determine the utilization of essential newborn care services. Data was collected and analyzed using descriptive and inferential statistics.

After the pilot study some modifications in the tools were made. For instance, utilization check list was changed into four subdivisions. And also it was found to be time consuming to collect the data by interview method so it was decided by the experts to use self administered questionnaire for literate women. As it was feasible it was implemented in the main study.

### **Data collection procedure**

Data collection is the gathering of information needed to address a research problem. Data was collected for a period of one month in June 2010. After obtaining formal permission from the block development officer of Thiruppukuzhi primary health centre, 100 mothers were selected by convenient sampling technique. After obtaining formal consent from the participants, the self-administered questionnaire was given but the investigator remained with the mothers when they were filling it to clear doubts. The investigator took half an hour for each sample. 8-10 samples were collected each day. A pamphlet prepared by the investigator on essential newborn care services was also distributed to the participants in order to create awareness about essential newborn care services.

### **Problems faced during the data collection**

The problems faced during the data collection were

- Some mothers were not willing to participate in the study.
- Mothers did not want to stay back after consulting the medical officer.
- Data collection was time consuming.

### **Plan for data analysis**

Data analysis is the systematic organization and synthesis of research data and testing of research hypothesis by using the obtained data (Polit and Beck 2006).

Analysis and interpretation of data was carried out with descriptive and inferential statistics. Chi square was used to analyze the data.

## **Summary**

This chapter has dealt with research approach, research design, setting, population, sample, sampling technique, inclusion criteria, selection and development of study instruments, content validity, reliability, pilot study, data collection procedure and plan for data analysis. The subsequent chapter deals with the analysis and interpretation of the data.



## **CHAPTER IV**

### **ANALYSIS AND INTERPRETATION**

This chapter describes the analysis of the numerical data collected by the study instruments and their meaning and relevance. Statistics is a field of study concerned with techniques or methods of collection of data, classification, summarizing, interpretation, drawing inferences, testing of hypothesis, making recommendation, etc. (Mahajan, 2004).

The data was collected from 100 mothers of newborn who were in need of essential newborn care services during the period of data collection. The data were analyzed according to objectives and hypothesis of the study. Data analysis was completed after all the data were transferred to master coding sheet. The researcher used descriptive and inferential statistics for data analysis.

The data were analyzed, tabulated and interpreted by the use of descriptive and inferential statistics in the sequence as follows.

#### **Organization of findings**

- Frequency and percentage distribution of demographic variables, level of knowledge, level of attitude level of and utilization of essential newborn care services among mothers.
- Correlation between knowledge and attitude, attitude and utilization, knowledge and utilization of essential newborn care services among mothers.

- Association between selected demographic variables and the level of knowledge, attitude and utilization of essential newborn care services among mothers.

**Table 1****Frequency and Percentage Distribution of Demographic Variables of Mothers.**

(Age, Occupation, Religion, Family Income, Number of Years of Residence and Parity).

**(N=100)**

<b>Demographic Variables</b>	<b>n</b>	<b>p</b>
<b>Age of the mother in years</b>		
<20	20	20
21 – 25	57	57
26 – 30	22	22
>31	1	1
<b>Occupation</b>		
Homemaker	49	49
Daily wages	36	36
Self employed	15	15
<b>Religion</b>		
Hindu	88	88
Muslim	8	8
Christian	4	4
Others	-	-
<b>Family income per month</b>		
<=Rs.3000	40	40
Rs.3001 - Rs.5000	43	43
Rs.5001 - Rs.10000	17	17
>=Rs.10000	-	-
<b>Number of years of residence</b>		
<3	30	30
3 – 6	30	30
>6	40	40
<b>Parity</b>		
Primi	49	49
Multi	51	51

The data in Table 1 reveals that most of the mothers were in the age group of 21-25years (57%), were multiparous (51%).Majority of them were Hindus (88%). Significant percentage of mothers were homemakers (49%), their family income per month ranged

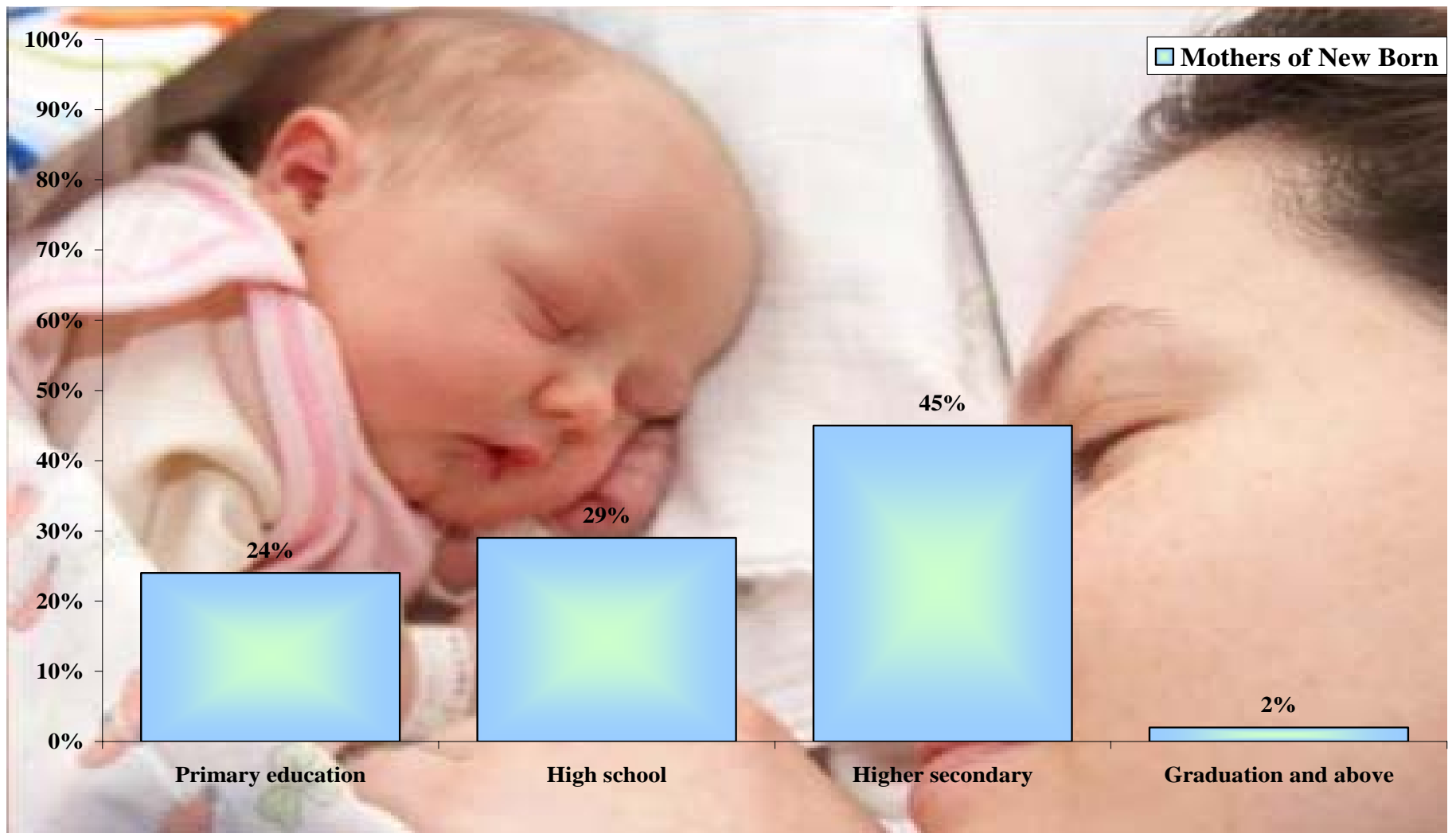
between Rs3001-Rs.5000 (43%) and they were living in the same village for more than 6 years (40%).

Fig.3 shows that significant percentages of mothers were completed higher secondary education (45%).

Fig.4 indicates that majority of the participants (67%) got information through health professionals.

Fig.5 reveals that most of mothers had normal vaginal delivery (67%).

Fig.6 indicates that significant percentage of the babies belongs to the age group from birth to twenty eight days (41%).



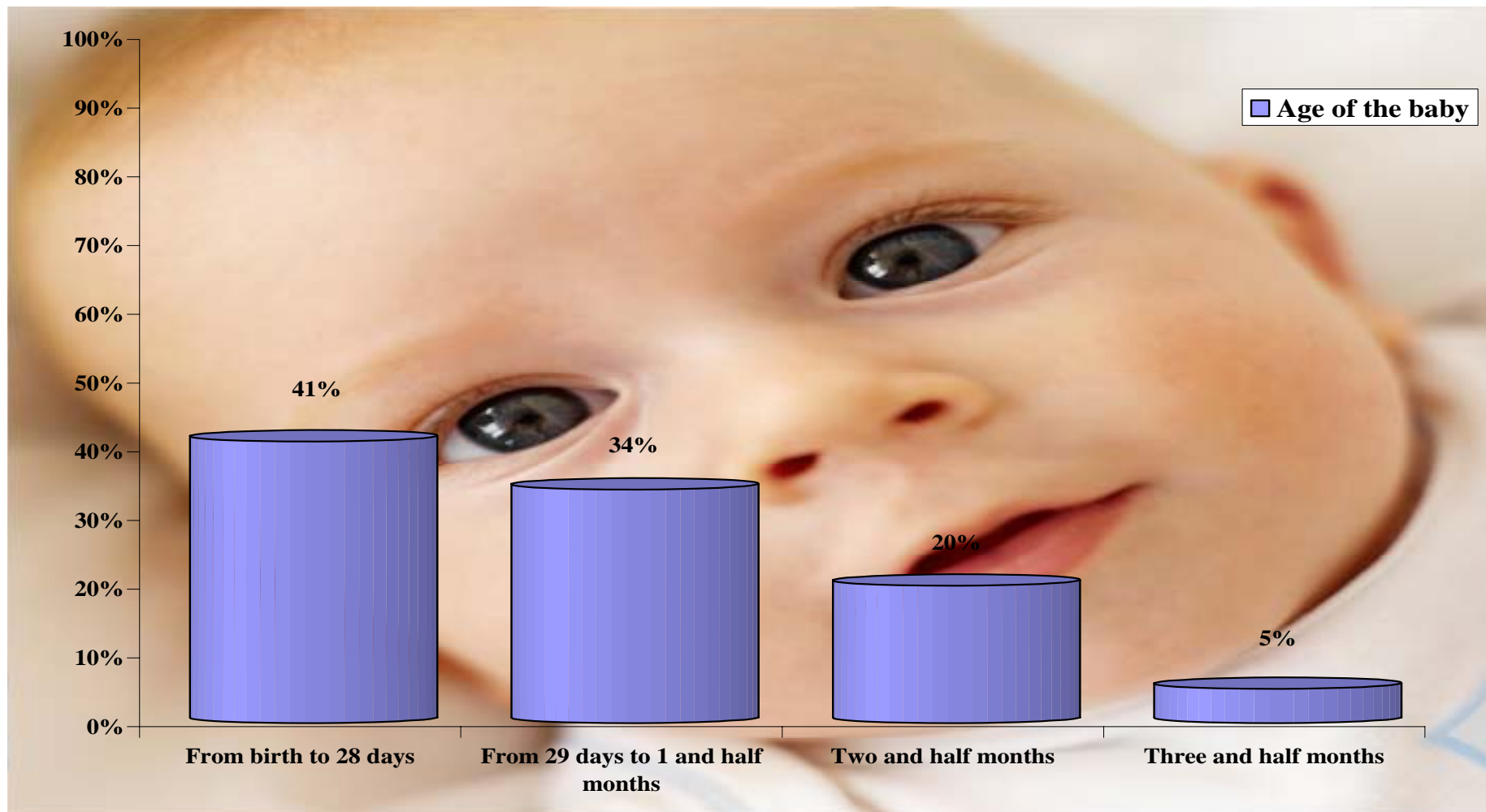
**Fig. 3. Percentage Distribution of Educational Status of Mothers**



**Fig. 4 Percentage distribution of source of information**



**Fig.5. Percentage Distribution of Type of Delivery**



**Fig.6. Percentage Distribution of Age of the Baby**



**Table 2**

**Frequency and Percentage Distribution of Level of Knowledge of Essential Newborn Care Services among Mothers.**

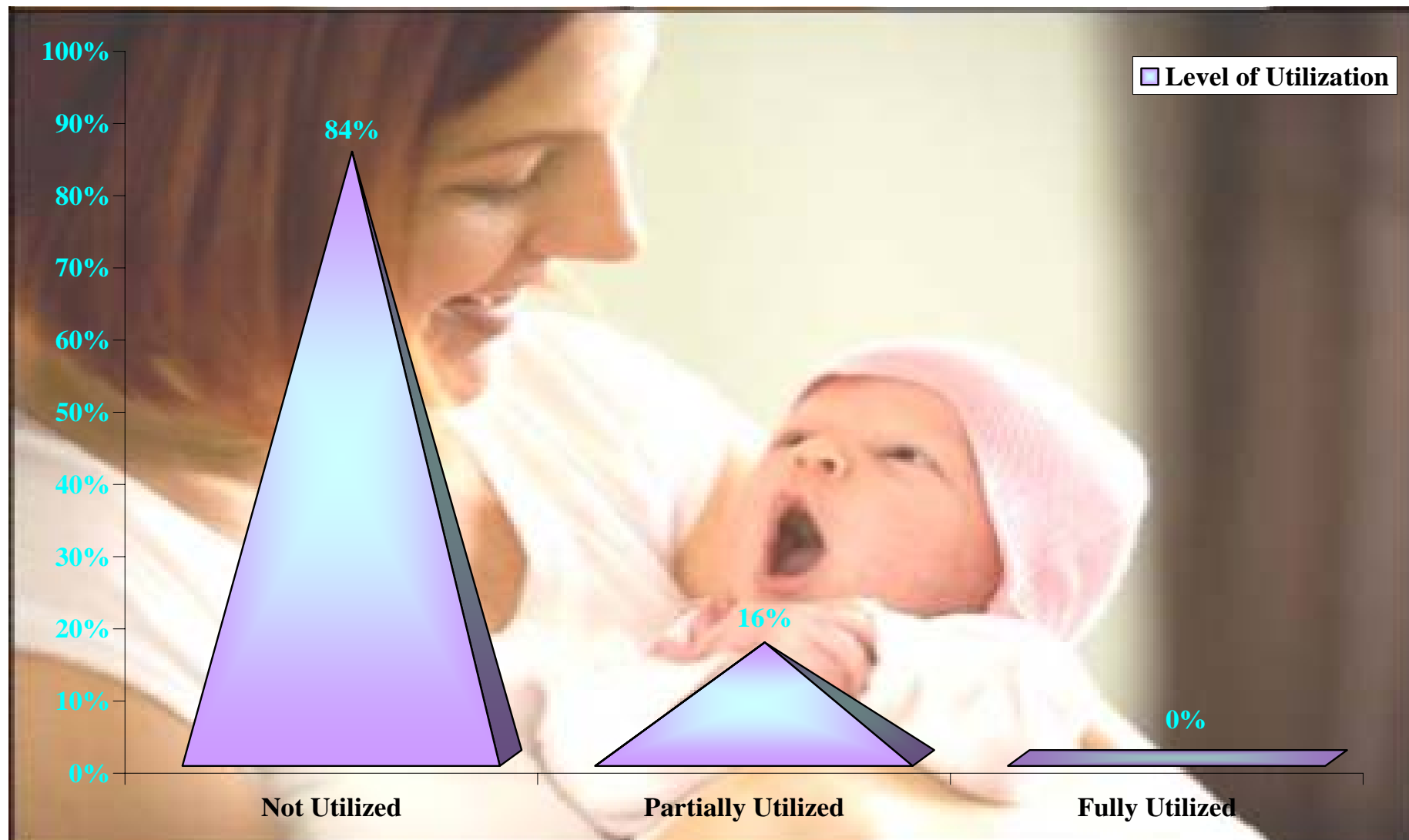
**(N=100)**

<b>Variables</b>	<b>Inadequate Knowledge (&lt;50%)</b>		<b>Moderately Adequate Knowledge (50 – 75%)</b>		<b>Adequate Knowledge (&gt;75%)</b>	
	<b>n</b>	<b>p</b>	<b>n</b>	<b>p</b>	<b>n</b>	<b>P</b>
Essential newborn care services	29	29	41	41	30	30
Breastfeeding	30	30	47	47	23	23
Immunization	13	13	45	45	42	42
Weaning	21	21	22	22	57	57
<b>Overall</b>	<b>21</b>	<b>21</b>	<b>48</b>	<b>48</b>	<b>31</b>	<b>31</b>

Table 2 depicted that overall knowledge among mothers regarding essential newborn care services was found to be moderately adequate (48%). Most of the mothers had adequate knowledge on weaning (57%). Significant percentage of mothers had adequate knowledge on immunization (42%). 30% of mothers had inadequate knowledge regarding essential newborn care services and breast feeding.



**Fig. 7 Percentage distribution of level of attitude of mothers regarding essential newborn care services**



**Fig. 8 Percentage distribution of utilization of essential newborn care services**

**Table 3**

**Mean and Standard Deviation of Knowledge, Attitude and Utilization of Essential Newborn Care Services among Mothers.**

**(N=100)**

<b>Group</b>	<b>Knowledge</b>		<b>Attitude</b>		<b>Utilization</b>	
	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>	<b>Mean</b>	<b>SD</b>
Mothers of newborn	<b>16.34</b>	<b>3.82</b>	<b>39.27</b>	<b>6.60</b>	<b>30.57</b>	<b>6.29</b>

This was evident from the data in table 3 that mean of overall knowledge of mothers was found to be (M=16.34, SD=3.82).

Attitude towards the essential newborn care services among mothers was found to be (M=39.27, SD=6.60).

While utilization of essential newborn care services was found to be (M=30.57, SD=6.29).

**Table 4**

**Correlation between Knowledge and Attitude of Essential Newborn Care Services among Mothers.**

**(N=100)**

Variables	Mean	S.D	'r' Value
Knowledge	16.34	3.82	0.412**
Attitude	29.24	4.80	

\*\*p<0.01

It could be inferred from table 4 that there was a significant relationship existed between the level of knowledge and attitude among mothers. The correlation was found statistically significant at p<0.01 level of confidence. Hence, the null hypothesis Ho1 was rejected.

**Table 5**

**Correlation between Knowledge and Utilization of Essential Newborn Care Services among Mothers.**

**(N=100)**

<b>Correlation between Knowledge and Utilization Variables</b>			
	<b>Mean</b>	<b>S.D</b>	<b>‘r’ Value</b>
Knowledge	16.34	3.82	0.319**
Utilization	30.57	6.29	

\*\*p<0.01

The data in the table 5 indicated a positive correlation existed between knowledge and utilization of essential newborn care services. The correlation was found statistically significant at  $p<0.01$  level of confidence. Hence, the null hypothesis  $H_0$  was rejected.

**Table 6**

**Correlation between Attitude and Utilization of Essential Newborn Care Services among Mothers.**

(N=100)

Variables	Mean	S.D	'r' Value
Attitude	29.24	4.80	0.306**
Utilization	30.57	6.29	

\*\*p<0.01

The data in the table 6 indicated a positive correlation existed between attitude and utilization of essential newborn care services. The correlation was found statistically significant at p<0.01 level of confidence .Hence, the null hypothesis Ho1 was rejected.

**Table 7**

**Association between Selected Demographic Variables and Level of Knowledge of Essential Newborn Care Services among Mothers.**

(N=100)

Demographic Variables	Inadequate (<50%)		Moderately Adequate (50 – 75%)		Adequate (>75%)		$\chi^2$
	n	p	n	p	n	p	
<b>Age of the mother in years</b>							
<20	6	6	5	5	9	9	12.942 df = 6*
21 – 25	11	11	27	27	19	19	
26 – 30	4	4	16	16	2	2	
>31	-	-	-	-	1	1	
<b>Educational Status</b>							
Primary education	7	7	9	9	6	6	5.969 df = 8
High school	4	4	16	16	9	9	
Higher secondary	8	8	21	21	16	16	
Graduation and above	1	1	1	1	-	-	
<b>Occupation</b>							
Homemaker	7	7	22	22	20	20	7.386 df = 4
Daily wages	8	8	20	20	8	8	
Self employed	6	6	6	6	3	3	
<b>Religion</b>							
Hindu	19	19	39	39	30	30	4.786 df = 4
Muslim	1	1	6	6	1	1	
Christian	1	1	3	3	-	-	
Others	-	-	-	-	-	-	
<b>Family income per month</b>							
<=Rs.3000	9	9	13	13	18	18	11.747 df = 4*
Rs.3001 - Rs.5000	6	6	28	28	9	9	
Rs.5001 - Rs.10000	6	6	7	7	4	4	
>=Rs.10000	-	-	-	-	-	-	



<b>Number of years of residence</b>							
<3	6	6	14	14	10	10	1.789 df = 4
3 – 6	8	8	12	12	10	10	
>6	7	7	22	22	11	11	
<b>Source of information</b>							
Received from relatives & friends	7	7	14	14	6	6	2.752 df = 4
Received from health professionals	12	12	31	31	24	24	
Received from mass media	2	2	3	3	1	1	
Not received	-	-	-	-	-	-	
<b>Parity</b>							
Primi	10	10	22	22	17	17	0.632 df = 2
Multi	11	11	26	26	14	14	
<b>Type of delivery</b>							
Normal delivery	13	13	33	33	21	21	0.910 df = 4
Forceps delivery	5	5	7	7	5	5	
Caesarean section	3	3	8	8	5	5	
<b>Age of the baby</b>							
From birth to 28 days	11	11	14	14	16	16	10.082 df = 6
From 29 days to 1 and half months	5	5	19	19	10	10	
Two and half months	5	5	10	10	5	5	
Three and half months	-	-	5	5	-	-	

\*p<0.05

The data in table 7 showed that age and family income were significantly associated with the level of knowledge. The values was found to be statistically significant at p<0.05 level. Hence, the null hypothesis Ho2 was rejected.

Table 8

Association between Selected Demographic Variables and Level of Attitude of Essential Newborn Care Services among Mothers.

(N=100)

Demographic Variables	Low Positive Attitude (<50%)		Moderately Positive Attitude (50 – 75%)		Positive Attitude (>75%)		$\chi^2$
	n	p	n	p	n	p	
<b>Age of the mother in years</b>							
<20	4	4	14	14	1	1	23.106 df = 6***
21 – 25	8	8	46	46	3	3	
26 – 30	7	7	15	15	-	-	
>31	-	-	-	-	1	1	
<b>Educational Status</b>							
Primary education	4	4	17	17	1	1	2.412 df = 8
High school	6	6	22	22	1	1	
Higher secondary	8	8	34	34	3	3	
Graduation and above	1	1	1	1	-	-	
<b>Occupation</b>							
Homemaker	8	8	37	37	4	4	2.769 df = 4
Daily wages	7	7	28	28	1	1	
Self employed	4	4	11	11	-	-	
<b>Religion</b>							
Hindu	17	17	66	66	5	5	1.914 df = 4
Muslim	2	2	6	6	-	-	
Christian	-	-	4	4	-	-	
Others	-	-	-	-	-	-	
<b>Family income per month</b>							
<=Rs.3000	8	8	27	27	5	5	8.176 df = 4
Rs.3001 - Rs.5000	8	8	35	35	-	-	
Rs.5001 - Rs.10000	3	3	14	14	-	-	
>=Rs.10000	-	-	-	-	-	-	
<b>Number of years of residence</b>							
<3	3	3	26	26	1	1	6.331 df = 4
3 – 6	7	7	23	23	-	-	
>6	9	9	27	27	4	4	

<b>Source of information</b>							
Received from relatives & friends	1	1	23	23	3	3	10.564 df = 4*
Received from health professionals	18	18	47	47	2	2	
Received from mass media	-	-	6	6	-	-	
Not received	-	-	-	-	-	-	
<b>Parity</b>							
Primi	6	6	39	39	4	4	4.393 df = 2
Multi	13	13	37	37	1	1	
<b>Type of delivery</b>							
Normal delivery	12	12	52	52	3	3	2.844 df = 4
Forceps delivery	3	3	12	12	2	2	
Caesarean section	4	4	12	12	-	-	
<b>Age of the baby</b>							
From birth to 28 days	4	4	34	34	3	3	4.698 df = 6
From 29 days to 1 and half months	9	9	24	24	1	1	
Two and half months	5	5	14	14	1	1	
Three and half months	1	1	4	4	-	-	

\*p<0.05, \*\*\*p<0.001

The data in table 8 showed that age and source of information were significantly associated with the level of attitude .The value was found to be statistically significant at p<0.001 and p<0.05 level. Hence, the null hypothesis H02 was rejected.

**Table 9**

**Association between Selected Demographic Variables and Level of Utilization of Essential Newborn Care Services among Mothers.**

(N=100)

Demographic Variables	Not Utilized (<50%)		Partially Utilized (50 – 75%)		Fully Utilized (>75%)		$\chi^2$
	n	p	n	p	n	p	
<b>Age of the mother in years</b>							
<20	17	17	3	3	-	-	1.110 df = 3
21 – 25	49	49	8	8	-	-	
26 – 30	17	17	5	5	-	-	
>31	1	1	-	-	-	-	
<b>Educational Status</b>							
Primary education	20	20	2	2	-	-	2.124 df = 4
High school	23	23	6	6	-	-	
Higher secondary	37	37	8	8	-	-	
Graduation and above	2	2	-	-	-	-	
<b>Occupation</b>							
Homemaker	42	42	7	7	-	-	13.525 df = 2***
Daily wages	34	34	2	2	-	-	
Self employed	8	8	7	7	-	-	
<b>Religion</b>							
Hindu	77	77	11	11	-	-	6.994 df = 2*
Muslim	5	5	3	3	-	-	
Christian	2	2	2	2	-	-	
Others					-	-	
<b>Family income per month</b>							
<=Rs.3000	31	31	9	9	-	-	2.686 df = 2
Rs.3001 - Rs.5000	37	37	6	6	-	-	
Rs.5001 - Rs.10000	16	16	1	1	-	-	
>=Rs.10000	-	-	-	-	-	-	
<b>Number of years of residence</b>							
<3	26	26	4	4	-	-	2.220 df = 2
3 – 6	27	27	3	3	-	-	
>6	31	31	9	9	-	-	

<b>Source of information</b>							
Received from relatives & friends	25	25	2	2	-	-	2.063 df = 2
Received from health professionals	54	54	13	13	-	-	
Received from mass media	5	5	1	1	-	-	
Not received	-	-	-	-	-	-	
<b>Parity</b>							
Primi	42	42	7	7	-	-	0.210 df = 1
Multi	42	42	9	9	-	-	
<b>Type of delivery</b>							
Normal delivery	58	58	9	9	-	-	2.750 df = 2
Forceps delivery	12	12	5	5	-	-	
Caesarean section	14	14	2	2	-	-	
<b>Age of the baby</b>							
From birth to 28 days	33	33	8	8	-	-	1.386 df = 3
From 29 days to 1 and half months	29	29	5	5	-	-	
Two and half months	17	17	3	3	-	-	
Three and half months	5	5	-	-	-	-	

\*p<0.05, \*\*\*p<0.001

The data in table 9 showed that occupation and religion were significantly associated with the level of utilization at the level of p<0.001 and p<0.05 level of confidence.

Thus, the investigator concluded that age, family income per month was significantly associated with the level of knowledge. Age and source of information were significantly associated with the level of attitude. Occupation and religion were significantly associated with the level of utilization. Hence, the null hypothesis Ho2 was rejected.

## **CHAPTER V**

### **DISCUSSION**

A descriptive study to assess the utilization of essential newborn care services rendered by National Rural Health Mission (NRHM) among mothers at selected primary health centre, Kanchipuram.

#### **Objectives of the study**

1. To assess the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.
2. To correlate the knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.
3. To determine the association between selected demographic variables and the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.

The study was conducted among mothers of newborn who were in need of essential newborn care services during data collection.

**The first objective of the study was to assess the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.**

Age of marriage is closely associated with age of the first pregnancy of a girl; the present study revealed that most of the mothers (57%) were in the age group of 21-25 years which shows the awareness of mothers about the appropriate age for marriage. The findings of the study is consistent with the findings of Renuga Devi who conducted

a study to assess the utilization of MCH service in Thiruvallur district, Tamil Nadu, during the year 2007. The study concluded that 45% of participants were aged 21-25 years who were either pregnant or had delivered at the time of interview.

Majority of the mothers (88%) in the population belonged to Hindu religion. The data supports that India is a Hindu dominated Country. About two third of Indians were Hindus. Among most of the families there was only one earning member and many were dependents, majority of the participants were from the lower middle class family with monthly income of Rs.3001-Rs.5000 per month. In 2001-2002 the estimate census of urban household income up to Rs.90, 000-Rs.2, 00,000 were 51.5%. It is interesting to know although national economy of India stands in second position worldwide; the annual household income still remains below average. The economic status of the family bears an indirect effect on the utilization of health services (Tambulwalker, 1999).

Significant percentages (45%) of the mothers had higher secondary education. Padam Singh et.al (2000) in his study concluded that literacy of mother is the key to the success of utilization of immunization program. Awareness about health services should especially be targeted to illiterate to remove the misconception and for encouragement in utilization.

Tamil Nadu is a patrilineal state; women after marriage reside in husband's house. The study findings showed that significantly number of mothers(40%) were home makers in the particular village for the last six years as they came and settled in that particular village after their marriage.

Most of the mothers (67%) revealed that they got information about the availability of essential newborn care services through health professionals (either through VHN, PHN). It is really motivating to know that health personnel are rendering care at every door step.

**The second objective of the study was to correlate the knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.**

A positive correlation was found between knowledge and attitude. The correlation was found statistically significant at  $p < 0.01$  level of confidence. Thus, the null hypothesis  $H_01$  was rejected. The overall knowledge showed that only (48%) of the mothers have moderately adequate level of knowledge about essential newborn care services.

The researcher concludes from the above findings that when there is adequate knowledge about any information if disseminated in the right way, it changes the attitude of the people and improves the utilization of it. The findings are consistent with the findings of (Kavitha V.R.S 2009) in which she assessed the knowledge, attitude and practice of rural mothers about weaning. She concluded that adherence to the plausible would mould the attitude and results in appropriate practice.

The researcher concluded from the above findings that most of the mothers (79%) have moderately adequate attitude regarding essential newborn care services. The finding is supported by the study done by (Mrs. Subhashree 2009) to assess the knowledge and attitude on AIDS among adolescence. The findings showed that when knowledge increases attitude also increases.



In this study the researcher found that majority of the mothers (84%) did not utilize the service provided under essential newborn care services. Though 40% of mothers had moderately adequate knowledge only 20% were using it. So the other reasons for not utilizing the services should be discovered. The researcher also distributed pamphlets with information about essential newborn care to motivate them.

The study is supported by the findings of Prof. Kamalam on utilization of MCH and family welfare service in the year (2009) concluded that awareness of the service availability is necessary in order to utilize the service.

**The third objective of the study was to determine the association between selected demographic variables and the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.**

Age, family income was found to be significantly associated with level of knowledge, attitude and utilization of essential newborn care services at the level  $p < 0.01$ .

The finding of the study is consistent with a pilot project done by (Kamjeet Kaul 2009) to assess the knowledge and utilization of family welfare service among women. It was found that demographic variable was associated with knowledge of the women regarding family welfare services. In another study done by Nirmalan et.al in the year (2004) to determine the utilization of eye care services in a rural population of southern India the researcher found that increasing qualification was associated with increased utilization of service.

The investigator interprets that age, income, occupation ,source of information are significantly associated with the level of knowledge ,attitude and utilization of essential newborn care services at the level of  $p<0.01$ , $p<0.05$ .Hence , the null hypothesis Ho2 was rejected.

### **Summary**

This chapter deals with the objectives of the study and the discussion on the result of analysis. The overall findings of the study showed that mothers had moderately adequate knowledge and attitude towards essential newborn care services which effected the utilization late. Utilization of essential newborn care service was found to be poor, though the antenatal services were found to be good but needs constant follow up to achieve excellence. Referral services were found to be poor. Correlation between knowledge and attitude, attitude and utilization and knowledge and utilization found to be positive at significant level  $p<0.01$ .Age, income, occupation, source of information were found to be associated with knowledge, attitude and utilization of essential newborn care services. The coming chapter deals with the summary, conclusion, implications and recommendations.

## **CHAPTER VI**

### **SUMMARY, CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS**

#### **Summary**

The heart of the research project lies in reporting the findings. This is the most creative and developing part of the study. This chapter gives a brief account of the present study including the conclusion drawn from the findings, recommendations, suggestions and nursing applications of the study. The present study was indented to analyze the utilization of essential newborn care services among the mothers.

The study was conducted to assess upon 100 mothers of newborn who were found to be in need of essential newborn care on the day of data collection.

#### **The objectives of the study were**

1. To assess the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.
2. To correlate the knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.
3. To determine the association between selected demographic variables and the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.

### **Null hypotheses**

**Ho1:** There will be no significant relationship between knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.

**Ho2:** There will be no significant association between selected demographic variables of mothers and the level of knowledge, attitude and utilization of essential newborn care services rendered by NRHM among mothers.

Extensive review of literature, guidance from experts in the field of nursing and medical leads the investigator to design the methodology and to develop the tools for data collection. The tool used were demographic and obstetrical variable proforma, self structured questionnaire on knowledge, Likert scale to assess the attitude and check list on utilization of essential newborn care services.

The conceptual frame work was developed on the basis of Kurt Lewin “Planned Change Model”-an evaluative approach and non experimental descriptive design was adopted for the study. The study setting was the selected primary health centre at Thiruppukuzhi, Kanchipuram district. Mothers who came for minor ailments of their child, immunization, follow ups were the study samples on the data collection. Convenient sampling was adopted to select the sample. Ethical aspect of the research was maintained throughout the study by setting formal permission from the authorities and informed consent from the participants. The information collected from the participants was kept confidential and it was used only for the research purpose.

The data were interpreted and discussed based on the objectives of the study.  
The data collected were analyzed by descriptive and inferential statistics.

### **Major findings of the study**

#### **Frequency and Percentage Distribution of Demographic Variables of Mothers**

- Majority of the mothers were Hindus (88%). Most of the mothers were multiparous (51%), in the age group of 21-25years (57%), were delivered their children through normal delivery (67%). Significant percentage of the mothers had babies in the age group of 0-28 days old (41%) ,completed higher secondary education (45%) and they were living in the same village for more than six years (40%), were home makers (49%) had a family income per month ranged from Rs.3001- Rs.5000 (43%).

#### **Frequency and percentage distribution of level of knowledge of essential new born care services**

- Most of the mothers had adequate knowledge on weaning (57%). Significant percentage of mothers had adequate knowledge on immunization and essential newborn care services (42%, 30%) respectively. Knowledge on essential newborn care services and breast feeding was found to be moderately adequate (48%), (47%).

### **Frequency and percentage distribution of level of attitude of essential newborn care services among mothers**

Majority of the mothers have moderately positive attitude (79%) regarding essential newborn care services. Only few 16% of the mothers have low positive attitude.

### **Frequency and percentage distribution of level of utilization of essential newborn care services among mothers**

While determining the overall utilization of essential newborn care services, it was found that majority of the mothers did not utilize the essential newborn care services (84%). Only (15%) of the mothers partially utilized the services. Counselling on exclusive breast feeding services was found to be utilized completely (7%). The referral services were found to be partially utilized (22%).

### **Mean and standard deviation of utilization, knowledge, attitude of essential newborn care services among mothers**

The mean and standard deviation of overall knowledge of mothers was found to be ( $M=16.34$ ,  $SD=3.82$ ). Attitude towards the essential newborn care services among mothers was found to be ( $M=39.27$ ,  $SD=6.60$ ). While utilization of essential newborn care services was found to be ( $M=30.57$ ,  $SD=6.29$ ).

### **Correlation between knowledge and attitude of essential newborn care services**

### **among mothers**

A positive correlation existed between knowledge and attitude. The correlation was found statistically significant at  $p < 0.01$  level of confidence. Thus, the null hypothesis  $H_01$  was rejected.

### **Correlation between knowledge and utilization of essential newborn care services among mothers**

A positive correlation existed between knowledge and utilization of essential newborn care services. The correlation was found statistically significant at  $p < 0.01$  level of confidence. Hence, null hypothesis  $H_01$  was rejected.

### **Correlation between attitude and utilization of essential newborn care services among mothers**

A positive correlation existed between attitude and utilization of essential newborn care services. The correlation was found to be statistically significant at  $p < 0.01$  level of confidence. Hence, the null hypothesis  $H_01$  was rejected.

### **Association between selected demographic variables and level of knowledge of essential newborn care among mothers**

Age and family income were significantly associated with the level of knowledge. The values was found statistically significant at  $p < 0.05$  level. Hence the null hypothesis  $H_02$  was rejected.

**Association between selected demographic variables and level of attitude regarding essential newborn care services among mothers.**

Age and source of information were significantly associated with the level of attitude. The value was found to be statistically significant at  $p < 0.001$  and  $p < 0.05$  level. Hence the null hypothesis  $H_02$  was rejected.

**Association between demographic variables and level of utilization of essential newborn care services among mothers.**

Occupation and religion were significantly associated with the level of utilization at the level of  $p < 0.001$  and  $p < 0.05$  level. Hence the null hypothesis  $H_02$  was rejected.

Thus, the investigator concluded that age, family income per month was significantly associated with the level of knowledge. Age and source of information were significantly associated with the level of attitude. Occupation and religion were significantly associated with the level of utilization. Hence the null hypothesis  $H_02$  was rejected.

**Conclusion**

The ages, family income per month were significantly associated with the level of knowledge. Age and source of information were significantly associated with the level of attitude. Occupation and religion were significantly associated with the level of utilization. There will be no significant association between selected demographic variables of mothers and the level of knowledge, attitude and utilization of essential newborn care services. Hence the null hypothesis  $H_02$  was rejected.



## **Implications**

A research based on approach can make the nurses capable of meeting the needs and expectations of their clients in every sphere of their practice.

### **Nursing service**

Nurses are the key person in any primary health centre. One of their roles is to educate the clients about the availability of various services. Newborns are the most vulnerable group in the community; hence the government has taken initiative to focus on essential newborn care. It is the responsibility to empower the mothers about the services available which would help to change the attitude and improve the in utilization.

### **Nursing education**

More emphasis on teaching strategy can be given in nursing curriculum. This may help the nursing students to use different teaching method to impart the appropriate knowledge on the utilization of the essential newborn care services to the focus group, because the students are the future “public health nurse” or “midwives” who will teach the community about good health practices and proper utilization of the health services.

### **Nursing administration**

The nurse administrators, especially district nurse officers, need to organize more health education manual, camps, meeting to make the community aware about the availability of essential newborn care services at their door step. The health information could be imparted through journals, booklets, pamphlets etc., to the community people in a simple, clear, attractive way.

### **Nursing research**

There is a need for extensive and intensive research in this area, so as the loop holes could be detected and thus the services could be improved. Further the same study could be replicated with more number of samples for better generalization.

### **Recommendations**

The investigator recommends the following

- A similar study could be conducted with more samples to generalize the findings
- The study could be replicated on different setting.
- A comparative study could be done to compare the utilization of essential newborn care services between two different districts or between urban and rural area.
- An experimental study could be conducted to evaluate the effectiveness of structured teaching programme on the similar problem.

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